Met Office iPhone App makes it into The Sunday Times top App List

Description

Today

The Sunday Times publishes the second part of their definitive App List. Today their selection includes both Science and Weather and the Met Office is delighted that our iPhone App is included in the list of the top 500 apps out there.

Increasingly, with rapid technological change, consumers demand instant access to weather information, and for it to be continuously updated. We take seriously our responsibility to provide the best possible service to the public, and this requires us to continually develop our scientific excellence to ensure we continue to provide the best advice possible in ways that meet the increasing demands of our customers. We are responding to this challenge: for example, our weather forecasting models now allow us to provide accurate forecasts for nearly 5000 individual locations across the country, helping to make our iPhone app one of the top five most popular in the UK, with over one million downloads.

As the UK's national meteorological service, the Met Office provides accurate and reliable weather forecasts on TV and radio, in print, and online. Now, you can get our forecasts wherever you go with the free Met Office iPhone application. The app gives you access to:

- Five-day forecasts
- National severe weather alerts
- Daily national and regional weather maps
- UK rainfall radar and satellite imagery

The iPhone application is free and available from the Apple App Store .

Date Created
February 2011

Ask the experts about climate change

Description

We are inviting the public to submit their questions about climate change as part of our contribution to the Open Air Laboratories (OPAL) project.

Anyone who is confused or curious about climate change can send their questions via the OPAL website . Scientists from the Met Office will publish answers to as many of them as possible online, with particular emphasis on popular or trending topics.

OPAL brings science and communities together with the aim of inspiring a new generation of nature lovers and increasing environmental awareness, both locally and globally.

For many people, climate change is surrounded by myths and misunderstandings. The OPAL Climate Centre , developed by the Met Office, aims to untangle some of them.

Mark McCarthy, Climate Scientist at the Met Office said, “Weather and climate are two of the most talked about topics today. We want to help everyone understand the important issues we face, as well as answering any questions they may have.

“No question is too daft or simplistic. We want people to tell us what confuses them about climate change and we will try to widen their understanding of this difficult topic.”

Learn about our climate
In addition to its ‘ask the climate experts’ service, the OPAL Climate Survey, developed by the Met Office in collaboration with OPAL partners, will be launched in March 2011. The survey, designed to help everyone learn about our climate and how we impact on it, will also provide scientists with data which will help them predict weather and climate patterns.

The Met Office is committed to helping people of all ages make the most of the great outdoors, and OPAL funding has enabled us to support the Scout Meteorology badge for a year. Learning about the weather and being able to recognise which clouds could produce rain or where best to shelter from the wind will help Scouts be better prepared for their outdoor activities.

Date Created
February 2011

Met Office in the News: Friday 18th February

Description

Earlier this week the journal Nature published a paper in how emissions of greenhouse gases increased the odds of the Autumn 2000 floods. This paper used the detailed computer climate model developed at the Met Office Hadley Centre. Using this the project team simulated the weather in Autumn 2000, both as it was, and as it might have been had there been no greenhouse gas emissions since the beginning of the 20th century. This was then repeated thousands of times using a global volunteer network of personal computers participating in the climate*prediction*.net project in order to pin down the impact of emissions on extreme weather. The team then fed the output from these weather simulations into a flood model, and found that 20th century greenhouse gas emissions very likely increased the chances of floods occurring in autumn 2000 by more than 20%; and likely by 90% (close to doubling the odds) or more.

Scientific evidence

> Lord Henley, Environment Minister, said: “I welcome this research which is the first to attribute how rising greenhouse gas concentrations may increase the chance of a particular flood. This work reinforces the scientific evidence on the need for the UK to tackle climate change, and to increase our resilience to the challenges climate change will bring from extreme weather events.”
>
> Dr Peter Stott, of the Met Office, and a co-author of the report, said: “This study is the first step toward near real-time attribution of extreme weather, untangling natural variability from man-made climate change. This research establishes a methodology that can answer the question about how the odds of particular weather events may be altering. It will also allow us to say, shortly after it has occurred, if a specific weather event has been made more likely by climate change, and equally importantly if it has not.”

Developing the science

The Met Office Hadley Centre has been commissioned by DECC, Defra and DfID to work with international partners as part of the Attribution of Climate-related Events Group. The group is developing the science of attribution of extreme weather that will be needed to provide regular and scientifically robust assessments of how the odds of these phenomena are changing.

Related Articles

- Floods caused by climate change (telegraph.co.uk)
- British floods ‘were the result of climate change’ (independent.co.uk)
- Scientists identify human connection to precipitation extremes. (climatecentral.org)

- Climate change ‘doubled flood risk’ (guardian.co.uk)
- Blame human emissions for British floods (newscientist.com)
- ‘Human Influence’ On Devastating UK Floods (news.sky.com)

Ocean Forecasting Success

Met Office scientists have been awarded the Denny Medal for the best research paper of 2010 by the Journal of Operational Oceanography. The paper describes how the Met Office operational Forecasting Ocean Assimilation Model (FOAM) and the new Nucleus for European Modelling of the Ocean (NEMO) work and presents verification of their performance.

FOAM data of the three dimensional density structure of the ocean were primarily used by the Royal Navy in their sonar propagation models for use in anti-submarine warfare. From this original use, the model has been developed to provide both our government and commercial customers with forecasts that include:

- Ocean currents
- Salinity
- Ocean surface temperatures
- Sea-ice extent

Such forecasts are critical to sensitive offshore operations such as oil and gas drilling and undersea cable repair and demonstrates how the Met Office supports both our government, defence and commercial customers.

Date Created
February 2011

Met Office scientists awarded Denny Medal for ocean expertise

Description

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FOAM has been running operationally at the Met Office for over ten years, taking real-time data from satellites and the 3,000 Argo profiling floats to provide daily global analyses of ocean temperatures, salinity, currents and sea-ice extent and forecasts to five days ahead.

Lead author, Dr Dave Storkey, Met Office Ocean Model Scientist, said: “This prize is recognition of the work done in the Ocean Forecasting team to develop and evaluate an ocean forecasting system of international repute. The FOAM system is showing its worth in the accuracy of forecasts to five days ahead and provides a platform for the development and application of ocean ecosystem models.”

Rewarding the science
The paper, ‘Forecasting the ocean state using NEMO: The new FOAM system’, has been awarded the Institute of Marine Engineering, Science and Technology (IMarEST) Denny Medal. This medal is awarded to the author of the best paper published in the calendar year. The vote is cast by the journals Editorial Board and the IMarEST Publications Supervisory Board.

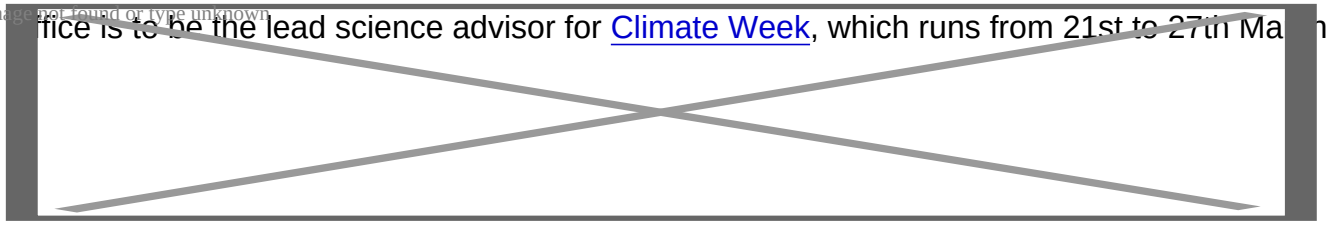
Dr. Storkey will be presented with the award, as well as medals for him as lead author and for the Ocean Forecasting team, at the IMarEST Annual General Meeting in March.

Date Created
February 2011

Met Office becomes lead scientific adviser to Climate Week

Description

The Met Office is to be the lead science advisor for Climate Week, which runs from 21st to 27th March 2011. Image not found or type unknown



The role of the Met Office as lead science advisor is to explain some of the key science issues around climate change. Professor Julia Slingo, Met Office Chief Scientist, said: “Whenever we talk about climate change it’s important we do so with a proper understanding of the science. That’s why I’m very pleased for the Met Office to be associated with Climate Week. We hope our science will help people understand what our climate is and how it works.”

Kevin Steele, founder of Climate Week, said: “The Met Office is a household name known and trusted by millions of people across Britain, as well as being one of the country’s leading scientific organisations. It is tremendous to have it contributing its scientific expertise to the Climate Week campaign”.

The climate section of the Met Office website provides information and resources to help people understand more about our climate, climate science and climate change.

Date Created
February 2011

WOW – a new weather observations website for everyone

Description

The Times has today run a feature – ‘Experts make way for an outbreak of enthusiasm from citizen forecasters’ – about a new project by the Met Office to set up a social network for weather observations.

The weather is a subject that most of us talk about at some point during the day. In fact, many members of the public have an active interest in the weather and enjoy taking their own weather observations.

From spring 2011, the Met Office in partnership with the Royal Meteorological Society and supported by the Department of Education will launch a new web site for weather observers across the UK.

The ‘Weather Observations Website’ – WOW reflects recent advances in technology and how weather observations can be made. At the same time, the growing world of social networking online makes it relatively easy for anyone to get involved and share their weather observations.

By hosting the new website, the Met Office is helping to co-ordinate the growth of the weather observing community in the UK, by asking anyone to submit the observations they are taking. This can be done through using all levels of equipment, so there are no cost restrictions.

On behalf of the UK the Met Office operates a network of over 200 weather observing stations, however by there very nature they can not cover every single corner of the UK. This project will enable the public to fill in some of those corners, providing valuable information that can be shared with other enthusiasts through the website.

Although the observations submitted to WOW will not be used for input into Met Office weather forecast models, the purpose of the website is to provide a platform for the sharing of current weather observations. This will be regardless of where they come from, what detail of information or the frequency of reports.

It is hoped that users will then use the data to explore the British weather, looking at how weather varies from place to place, moves across the country and how height or your location can make a difference to the weather you see. Over time WOW will build up an historical record of weather observations for sites across the UK.

Involvement can include submitting ad-hoc information such as ‘it is snowing here’, or uploading a photograph of the weather you have observed. It also means you can submit routinely taken data from manned or automatic weather stations of high standards.

It is hoped that the website will encourage further growth in the UK's amateur weather observing community, and help educate children about the weather. It is hoped that this will become the UK's largest source of weather observations.

Observations sent to WOW will be monitored in two ways. Firstly, a series of 'quality flag' thresholds will be established across the UK to prevent obvious extremes from being entered. For example, this means that a maximum temperature of 25 Celsius cannot be entered during the winter months. In fact, quality data will be used to monitor very localised weather variations as and when they happen. Secondly, the web site will be self-regulatory with other users being encouraged to query and ultimately remove false information.

WOW is an exciting initiative from the Met Office and the Royal Meteorological Society, joining up the thousands of observations that are being taken across the UK, enabling them to be shared in real time and joined with the UK's national observing network.

You can find out more information and register your interest at
http://www.metoffice.gov.uk/science/creating/first_steps/weather_stations.html

Date Created
February 2011

Met Office in the Media: 09 February 2011

Description

Defence Codex, the MoD magazine for defence engineering and science has written two articles in the latest edition of the magazine looking back at the Iceland volcanic eruption from last spring. 'Ash in the sky causes eruption of scientific support' looks at how scientists across the Mod, including the Met Office met the challenges of such an unprecidented incident. The second article 'Met Office model adapts to crisis' explored how our modeling capability was used through the incident, looking also at ongoing research and development.

Coincidentally, there have been reports in some media today. The Telegraph for example reports today 'Icelandic volcano 'set to erupt'', whilst the Daily Mail says 'Not again! Icelandic volcano set to erupt dwarfing last year's devastation, warn scientists'. Despite these recent reports, there is currently little evidence to support an assessment of an increased risk of a volcanic eruption in Iceland. The Icelandic Met Office is the mandated State Volcano Observatory and with whom the UK Met Office is in regular contact. They confirm that whilst there was a 'seismic swarm' in the north-west part of Vatnajökull on Sunday, this has since died down and there is now no unusual seismic activity in the area. No warnings were or have been issued and the situation across Iceland, as always, is being closely and continually monitored.

Date Created
February 2011

Amazon drought – caused by climate change or not?

Description

The Amazon Rainforest

Questions have been raised by recent research into droughts in the Amazon (BBC). Our Amazon expert, Dr Richard Betts discusses the issue of Amazonian drought.

The recent paper, published in the journal Science, on the 2005 and 2010 Amazon droughts, by Lewis and co-authors, raises the obvious question – are the predictions of 'Amazon die-back' becoming reality?

It is now more than a decade since the Met Office Hadley Centre's earlier climate model was found to project long-term drought and forest loss in the Amazon due to future climate change. Other models, including more recent Met Office models, give less extreme results. However, instead of rushing to say "Look – it's happening!" we need to look very carefully at whether these could be just natural events instead.

Indeed, this is just one example of a whole new aspect of climate science – detection and attribution of climate change impacts. We are now confident that **global temperatures are increasing**, and that this is most likely due to human greenhouse gas emissions, but as for saying whether this is the cause of events such as the Amazon droughts and Australian floods there's much more work to do there.
Identifying trends in our changing ecosystems

It is very easy to perceive trends or changes in data when, in fact, it is just random noise.

How to identify true trends

- We need a long enough dataset to reliably cover the timescales of variation and change
- When the data show large fluctuations there is a need to employ rigorous statistical techniques to extract any signal of change from this noise.
- Even if a trend is real, it requires a systematic, scientific approach to determine its cause – just because two things are changing at the same time, it does not necessarily mean that one causes the other.

Processes

Understanding of the processes, including controlled experiments as far as possible, are key to attributing changes to their causes.

- **Mapping ecological impacts** – it is now possible to manipulate environmental conditions over a few hectares of forest, for example by shielding the forest floor from rainfall in order to simulate drought.
- **Virtual reality** – It's not possible to manipulate for regional climate changes – we only have one Earth – but we can use the 'virtual reality' of computer models, where different factors such as greenhouse gas or aerosol changes can be switched on and off in order to see which combination best explains observed changes in reality.

Meeting the scientific challenge

This will be one of the most challenging tasks of writing the IPCC Fifth Assessment Report. There is already a huge appetite for news on the apparent impacts of climate change, and we can expect to see papers or 'grey literature' reports emerging which attempt to attribute impacts such as ecological changes, food shortages and humanitarian disasters.

The science community's task in IPCC AR5 will be to **objectively assess this evidence** and establish the true, scientifically well-founded picture. After the controversy over statements on the Amazon in the IPCC Fourth Assessment, establishing the facts over Amazon drought will be top priority.

Related Articles

- Amazon drought stirs climate fear (bbc.co.uk)
- Amazon rainforest 'could start contributing to global warming after droughts' (telegraph.co.uk)
- Amazon drought caused huge carbon emissions (reuters.com)
- Amazon drought caused huge carbon emissions (reuters.com)
- Mass tree deaths prompt fears of Amazon 'climate tipping point' (guardian.co.uk)
- 2 severe Amazon droughts in 5 years alarms scientists (eurekalert.org)
- Two severe Amazon droughts in five years alarms scientists (sciencedaily.com)
- Amazon rainforest hit by second 'once in a century drought' in five years (dailymail.co.uk)
- Amazon drought led to huge CO2 emissions (msnbc.msn.com)

Date Created
February 2011

Australia recovers as Severe Tropical Cyclone Yasi finally weakens in Northern Territory

Description

Tropical Cyclone Yasi

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Tropical Cyclone Yasi

Parts of North East Australia are clearing up in the wake of Severe Tropical Cyclone Yasi, which is likely to have been the most intense cyclone at landfall over Queensland since 1918.

Cyclones of a similar intensity have made landfall more recently elsewhere in Australia:

- Tropical Storm Laurence in 2009
- Tropical Storm Monica in 2006

Severe Tropical Cyclone Yasi reached the coast at Mission Beach at midnight local time on Thursday, with the nearby town of Tully experiencing most of the destruction. However, the larger towns of Cairns and Townsville were spared the worst of the damage.

Some of the facts and figures from Severe Tropical Cyclone Yasi:

- Highest sustained winds were estimated to be near 155 mph, with higher gusts.
- Lowest air pressure was 929 millibars recorded at Tully.
- Five metre storm surge at Cardwell just south of Mission Beach.
- It was the strongest cyclone globally since Super Typhoon Megi in October 2010 which struck the Philippines.

Six days prior to landfall on Thursday 27th January, the Met Office global model was able to predict the point of landfall to within 46 km. The storm was not actually named until Sunday 30th January and had to cross 3500 km of ocean to reach Australia. Subsequent forecasts of landfall had errors averaging close to 150 km – well below what is usually expected.

The Australian Bureau of Meteorology are responsible for cyclone warnings in this region and use their own version of the Met Office Unified Model to underpin their forecasting capability.

Casualty figures related to Cyclone Yasi so far are low and may even be zero. This is testament to the excellent forecasts and warning procedures and people heeding the warnings.

Related Articles

- Cyclone Yasi likely to have ravaged Great Barrier Reef (guardian.co.uk)
- NASA Aqua Satellite sees powerful Cyclone Yasi make landfall in Queensland, Australia (eurekalert.org)
- Cyclone Yasi: timeline of major Australian cyclones (telegraph.co.uk)
- Stunning imagery of Tropical Cyclone Yasi (gearthblog.com)

Date Created
February 2011

First flood forecast test for Scotland

Description

Emergency staff testing the new flood forecasting service for Scotland found themselves in a real-life situation this week.

During a crucial two-day emergency exercise, involving a flooding scenario in the west of Scotland, weather conditions deteriorated and the new Scottish Flood Forecasting Service (SFFS) team realised they were dealing with a potentially high impact flooding situation.

Alan Motion, Business Manager for the Met Office's services to Government in Scotland, said that what happened during the test illustrated exactly why the service is being set up in the first place.

Helping Scottish Government

The high risk of flooding caused Scottish Government to call the Scottish Government Resilience Room (SGoRR) into action. They were briefed by SFFS with a real-time Flood Guidance Statement – this will soon be available to all of Scotland's emergency planning community and emergency responders.

Alan added: "The actions of the SFFS team, even at this early stage, show the partnership is already working well and the wider resilience team is reaping the benefits from the investment by the Scottish Government."

SEPA's Flood Forecasting and Warning Manager, Michael Cranston, said: "Having the right experts, in the right place, providing high quality, practical flood forecasting information, at the right time for Scotland's emergency response community, is exactly what the SFFS is there to achieve. This was an excellent opportunity to test it in a real-life situation, while also testing use of the new Floodline direct warnings service, which goes live in late March."

Providing timely advice

Officially launched in March this year, this new service will provide emergency responders and the Scottish Government with a daily assessment of flood risk across Scotland. This will ensure the availability of robust and timely advice during flooding incidents and include a five-day forecast.

The Scottish Flood Forecasting Service (SFFS) is funded by the Scottish Government, and is a new partnership between the Met Office and the Scottish Environment Protection Agency (SEPA)

Date Created
February 2011

Weather forecasts in Welsh and Gaelic

Description

The Met Office has launched Gaelic and Welsh language forecasts on its website, providing the latest weather forecasts and warnings to the 600,000 Welsh speakers and 58,000 Gaelic speakers, along with thousands of learners across the UK.

The Met Office 'Invent' website will provide up to date forecasts, including for over 5,000 locations across the country in Gaelic, Welsh as well as English.

As the National Weather Forecaster for the UK the Met Office provides the latest weather forecasts and warnings around the clock so that the public can make the most of the weather. This latest development of providing forecasts in Welsh and Gaelic on our website will make our forecasts more accessible and relevant to Welsh and Gaelic speakers.

Iain Forsyth, Head of the Public Weather Service at the Met Office said: "We are delighted that we are now able to provide weather forecasts in Welsh and Gaelic. This latest development follows the release of the Welsh language weather widget late last year."

Fiona Hyslop MSP, Minister for Gaelic in the Scottish Government said: "The Scottish Government is committed to a secure and sustainable future for Gaelic in Scotland. The Met Office is providing opportunities for Gaelic speakers and learners to use the language in everyday life, and such efforts are at the heart of growing the number of people using Gaelic.

"The Met Office's commitment to Gaelic content is a most welcome contribution towards our aim of creating a new generation of Gaelic speakers. This step complements a range of other Gaelic initiatives being taken forward in education, arts and other areas of Scottish public life."

The Met Office weather widget allows websites to embed Met Office forecasts into the page, letting visitors to keep up to date with the latest weather forecast without leaving the page. The widget is available in both English and Welsh, giving website owners the ability to add content seamlessly into both English and Welsh websites. A Gaelic version of the widget will be launched in the next few months.

Met Office weather forecasts

Date Created
February 2011